

DESCRIPTION OF RESEARCH PROJECT

Pursuant to Sections 5.3(j) and Section 5.61 of the Federal Communications Commission's rules, 47 C.F.R. §§ 5.3(j) and 5.61, Spectrum Wireless Holdings, LLC ("Charter"), a limited liability company and subsidiary of Charter Communications Operating, LLC, seeks Special Temporary Authority ("STA") for 180 days, beginning August 1, 2021, or immediately upon grant, to test and evaluate mmWave 5G waveform coverage and capacity in the 37 GHz band. Charter plans to characterize impact under several permutations, including different power, transmitter height and locations, and also quantify mmWave coverage. The proposed operations will advance Charter's understanding of potential use of the 37 GHz band including expanding our understanding of mmWave mobility.

Charter will conduct the proposed outdoor testing within a radius of 2 miles from the following fixed locations in Colorado Springs, El Paso County, Colorado:

1. N 38°50'3.14", W 104°49'14.35"
2. N 38°50'1.01", W 104°49'5.83"
3. N 38°50'7.14", W 104°49'14.80"
4. N 38°50'6.33", W 104°49'5.73"

Radio Equipment Description

For the testing, Charter will use four models of equipment, all with the same technical parameters:

Equipment	Tx Power (mW)	EIRP (dBm)	ERP (watts)	Mean or Peak	Emission Designator	Frequency Tolerance	Modulation
Prototype	794.4	60	609.53	Peak	600MD7D	0.001%	64QAM/16QAM/QPSK

Protection against Interference

Charter understands it must accept RF interference from any federal and non-federal incumbent users of this band and that all Charter operations will be on a secondary basis. With regard to existing users, Charter has identified a portion of the band being used for the proposed testing of 37GHz. Following review of the FCC's databases, Charter is aware of no incumbent or other experimental licensees operating within proximity to the proposed test location. Charter will conduct tests between the hours of 7 a.m. and 7 p.m., and Charter personnel will be present at all times during the testing.

Contact Information

Point of contact for FCC licensing issues:

Colleen King
Vice President, Regulatory Affairs
(202) 621-1921
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Point of contact for questions about testing operations:

PJ Jayawardene
Sr. Director of Wireless Operations, R&D
(847) 894 3972
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The following individual will be available 24/7 during all testing and has authority and ability to immediately cease all operations:

Rajeev Aggarwal
Director, Wireless R&D
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